

FACT SHEET



United States
Department of Energy
Grand Junction Office

July 2001

Restoration of the Monticello Millsite

The U.S. Department of Energy transferred a former uranium mill tailings site and adjacent government-owned properties to the City of Monticello, Utah, in June 2000 through the Federal Lands-to-Parks Program. The City of Monticello is responsible for restoration of the former millsite and plans to use the property for expansion of recreational facilities for its citizens and the general public.

Background

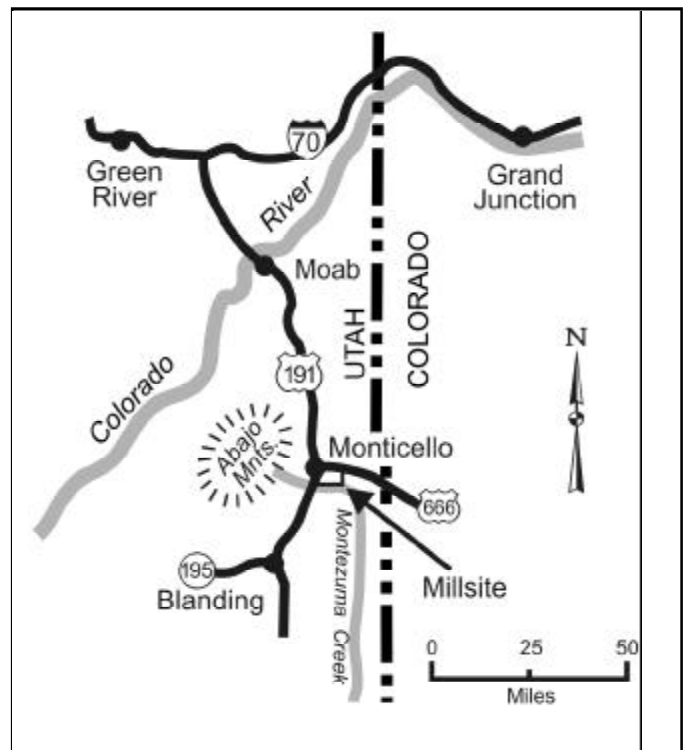
The original mill at Monticello, Utah, was built in 1942 to provide an additional supply of vanadium during World War II. The mill was modified in the early 1950s to process uranium ore. Milling continued intermittently until the early 1960s, when the mill was dismantled.

Tailings are the sandlike material that remains after processing of ore. Uranium tailings contain naturally occurring materials that radioactively decay to radium and then to radon, a radioactive gas. Properties in and around the City of Monticello have been contaminated with tailings and ore. Tailings were dispersed by wind and water from the millsite, and residual ore remained from hauling and stockpiling operations.

The U.S. Department of Energy (DOE) entered into an agreement with the U.S. Environmental Protection Agency (EPA) and the State of Utah Department of Environmental Quality to clean up tailings under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Cleanup of the contaminated soils has been completed. A total of 2.5 million cubic yards of tailings and tailings-contaminated materials were placed in a permanent repository south of the millsite. During the cleanup, approximately 1 mile of Montezuma Creek was destroyed by removal of the vegetation and contaminated sediments. Approximately 110 acres of the millsite was denuded of vegetation and topsoil. In many areas of the millsite, contaminated soils were removed to underlying bedrock.

Transfer of Federal Lands

In 1995, the Monticello Site Specific Advisory Board (SSAB), with the concurrence of the Mayor of the City of Monticello, requested that DOE transfer the former millsite property to the City of Monticello for expansion of the existing nine-hole municipal golf course and other recreational uses. DOE began working through



the Federal Lands-to-Parks Program to transfer the former millsite and some adjacent government-owned properties. This program allows state and local agencies to acquire land and facilities provided that they are open to the public and used exclusively for park and recreational activities. Properties transferred under the program must be used according to the terms of the transfer in perpetuity, although the actual terms and conditions may be amended by mutual agreement.

DOE and the City of Monticello signed a Cooperative Agreement in 1998 that established their responsibilities to complete restoration of the transferred property. This agreement requires the City of Monticello to complete restoration of the property in accordance with a design that includes construction of wetlands, final grading, reconstruction and realignment of Montezuma Creek, revegetation of the entire millsite, and erosion control of

steep upland areas. DOE, EPA, and the Utah Department of Environmental Quality approved the design. Under the Cooperative Agreement, DOE has access rights to the property to conduct monitoring and surveillance activities and to perform any further remedy at the millsite that may be determined necessary in the final Record of Decision for surface and ground waters. In April 2000, the National Park Service approved a use plan for the Monticello property for recreational open space that includes a walking trail and picnic areas. Any revisions or additions to the use plan must be submitted to the National Park Service for approval.

In June 2000, DOE completed the transfer of the 383.24-acre parcel of land to the City of Monticello through the Federal Lands-to-Parks Program.

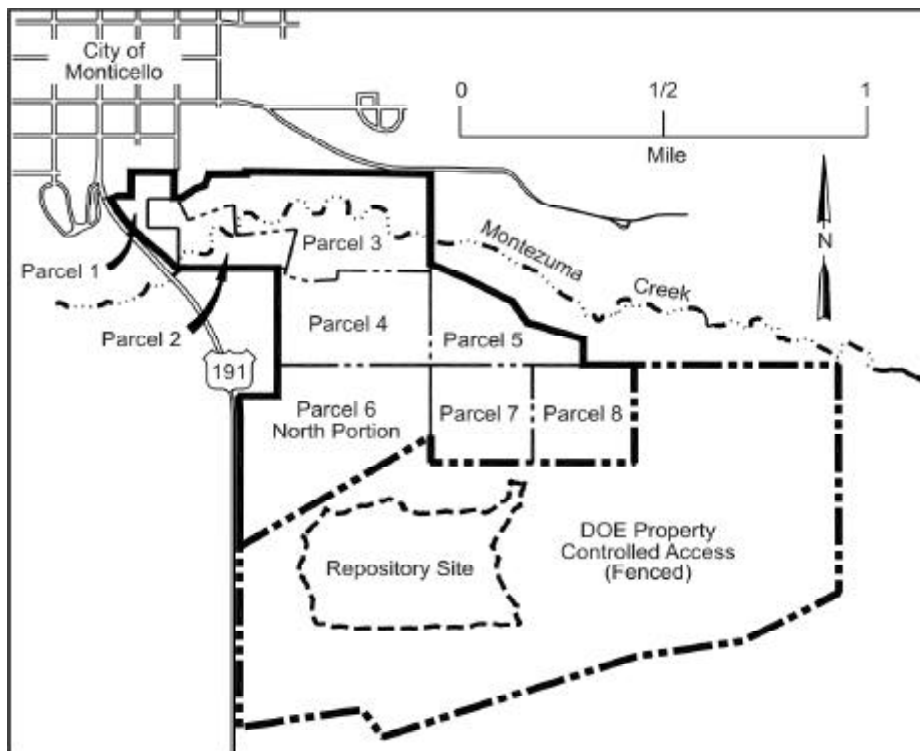


Figure 1. Locations of Parcels in Property Transferred to City of Monticello

Restrictions on Property Use

To maintain the integrity of the remediation performed on the former millsite property, certain restrictions were placed on the use of the property. These restrictions are set forth in the Quit Claim Deed that transferred the 383.24 acres from DOE to the City of Monticello:

- Property shall be used and maintained solely for public park and public recreation purposes in perpetuity.
- The property may not be sold or leased, except to another governmental agency.
- DOE, EPA, and the Utah Department of Environmental Quality are granted access to the property to complete any necessary monitoring or remedial actions.
- The property will not be used for residential purposes, and no habitable structures can be constructed on the transferred property.
- No soils can be removed and no activities can be conducted on land parcels 4, 5, and 7 (see Figure 1) that could lead to soil erosion. On the basis of a risk assessment, supplemental standards were applied to these three properties. Under the supplemental standards program, low-level

windblown contamination was left in place to avoid destruction of native piñon pine and juniper trees during remediation.

- No wells for domestic purposes can be constructed in the shallow alluvial aquifer on land parcels 1, 2, 3, 4, and 5.

Restoration Activities

The City contracted with Shepard-Wesnitzer, Inc., of Flagstaff, Arizona, to prepare the millsite restoration design. The City of Monticello awarded a contract to Delhur Industries of Port Angeles, Washington, on August 23, 2000, to complete restoration of the transferred property. Restoration tasks included placing 6 inches of topsoil on the entire millsite; implementing erosion controls on steeper slopes; reseeding the property with native plants; reconstructing and realigning approximately 1 mile of Montezuma Creek; constructing rock-lined channels to control drainage onto the millsite; and recreating 4.7 acres of wetlands. With the exception of the reseeding, all these activities have been completed.

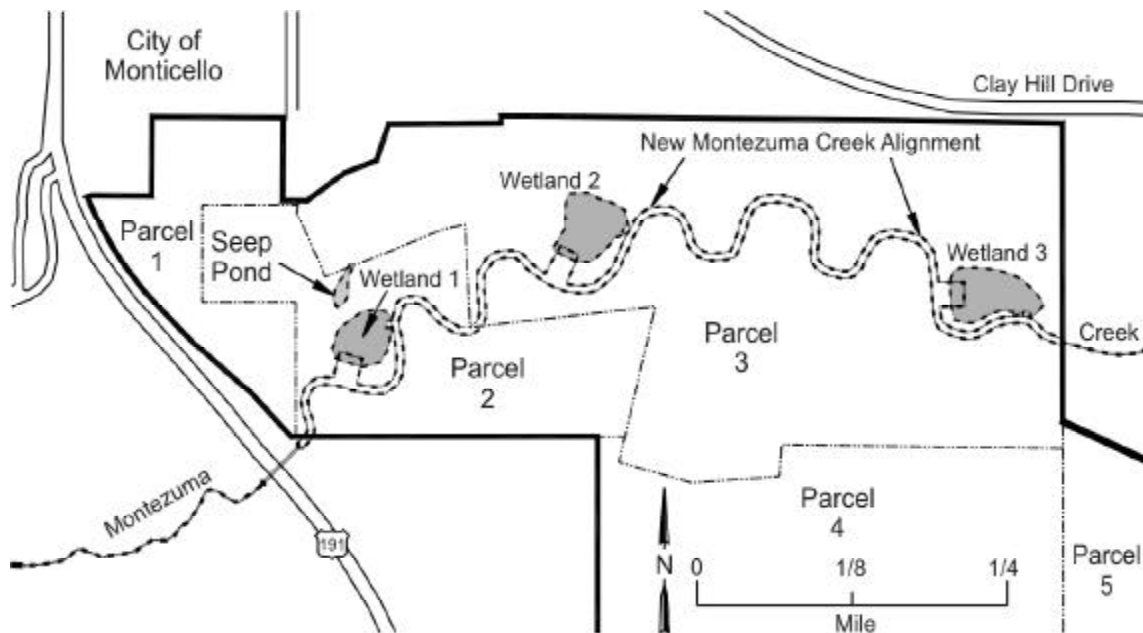


Figure 2. Locations of Ponds Constructed To Re-establish Wetland Areas

Reconstruction of Montezuma Creek and Wetland Areas

Millions of years ago, a surface flow of water deposited fine- and coarse-grain particles called alluvium in the valley where the former millsite and Montezuma Creek are located. Over time, the surface flow concentrated into a narrower stream forming Montezuma Creek, and ground water flowed within the alluvium.

Most of the alluvial material at the millsite was removed during remediation, and, in many areas of the millsite, soils and unconsolidated material were removed down to the bedrock. To recreate wetland areas requires ground water management, which necessitates replacement of the alluvial aquifer or ground water system. Alluvial material was screened to match specifications of the on-site alluvium to reconstruct Montezuma Creek and the ground water system. These specifications were

developed based on samples of natural alluvial material in nearby streams or other undisturbed sections of Montezuma Creek.

A 90-foot drop in elevation between the west and east boundaries of the former millsite increases the velocity of the water flowing in Montezuma Creek. Two design options were considered to control the velocity of creek water and to prevent erosion of the creek bank: (1) use of concrete or rock drop structures and (2) construction of a meandering or winding creek channel to increase its length and to decrease the slope. The meandering stream approach was adopted because it more closely resembles a stable natural creek. Willow plants will be planted along the creek channel to improve the stability of the creek bank.

Three wetland ponds and a seep pond were constructed along Montezuma Creek (see Figure 2) to re-establish the 4.7 acres of wetland areas that were destroyed during remediation.